

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2005/018912

International filing date (day/month/year)
07.10.2005

Priority date (day/month/year)
15.10.2004

International Patent Classification (IPC) or both national classification and IPC
H04N1/32, G06T1/00

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/018912

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations
see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

PCT/JP2005/018912

1. Reference is made to the following documents:

- D1: DANIEL GRUHL, WALTER BENDER: "Information Hiding to Foil the Casual Counterfeiter" LECTURE NOTES IN COMPUTER SCIENCE, PROCEEDINGS OF THE SECOND INTERNATIONAL WORKSHOP ON INFORMATION HIDING, vol. 1525, 1998, pages 1-15, XP002358859 Springer-Verlag, London, UK ISBN: 3-540-65386-4
- D2: W. BENDER, D. GRUHL, N. MORIMOTO, AIGUO LU: "Techniques for data hiding" IBM SYSTEMS JOURNAL, vol. 35, no. 3-4, 1996, pages 313-336, XP002358860 IBM Corp. Riverton, NJ, USA ISSN: 0018-8670
- D3: RYO SUGIHARA: "Practical Capacity of Digital Watermarks" IBM TOKYO RESEARCH LABORATORY, [Online] 25 April 2001 (2001-04-25), - 27 April 2001 (2001-04-27) XP002358861 4th International Information Hiding Workshop, Pittsburgh Retrieved from the Internet:
URL: http://www.research.ibm.com/trl/projects/RightsManagement/datahiding/paper/Sugir_yo_IH2001Slide.pdf [retrieved on 2005-12-13]
- D4: IN-KWON YEO, HYOUNG JOONG KIM: "Modified Patchwork Algorithm: A Novel Audio Watermarking Scheme" IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, vol. 11, no. 4, 2003, pages 381-386, XP002358862 ISSN: 1063-6676

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-19 does not involve an inventive step in the sense of Article 33(3) PCT.

Document D1, which is regarded as being the closest prior art to the subject-matter of claim 11, discloses an information-detecting method (see D1, pages 3-9) from which the subject-matter of claim 11 differs in that a set of neighbouring data wherein no information has been embedded is considered in a change amount calculation process for the detection of the additional information.

The problem to be solved by the present invention may therefore be regarded as the detection of information embedded in a data set by analysis of said data set and other neighbouring data.

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International application No.

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The solution proposed in claim 11 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because under the assumptions of equations 1 and 2 (see description pages 2 and 3) the introduction of terms related to neighbouring data as in equation 3 (see description page 14) has a negligible effect (they approach the value of zero) and is therefore merely an obvious option.

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 1 and 19, which therefore are also considered not inventive.

Dependent claims 2-10 and 12-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, see documents D1 to D4 and the corresponding passages cited in the search report.